ECKENFELDER INC.

MEMORANDUM

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TO: (b) (4)

FROM: (b) (4) KHO

DATE: 3/16/92 PROJECT:

cc: JEL
ANC
MMM
JLP
JJF

JOB NO: 6735

SUBJECT: Lord-Shope Landfill Treatability Study:
Additional Health and Safety Measures

This memo documents the additional engineering and administrative steps being taken to maximize worker health and safety during the Lord-Shope Landfill Treatability Study. The engineering controls being utilized are as follows:

- All gas piping prior to the blower will be maintained at a negative pressure during gas extraction operations. In this configuration any leakage would occur inward. The piping and connections internal to the trailer are of PVC.

- As a redundant backup, an explosimeter with alarm will be used to monitor the ambient air inside the trailer.

- The blower is of a non-sparking explosive-proof design and has an explosion-proof electric motor.

- The only portion of the process piping that will be under positive pressure is the discharge piping from the blower to the activated carbon unit. This portion of piping will be located outside and away from the trailer (to the southeast which is the predominant downwind direction).

- The blower, metal offgas piping, and activated carbon unit will be appropriately grounded.

- There will be no ignition sources (such as electrically operated sensors, etc.) inside the offgas piping. Instrumentation has been reviewed and it has been determined that the vacuum pump used to withdraw OVA samples and the drain valving within the demister are potential sources for sparking. The vacuum pump will be disabled and samples will be drawn using the internal pump within the OVA unit. Due to this change, samples taken from piping between the extraction well and the blower may require the use of the explosion-proof sampling pump which will be on site. Slight modifications will be made to the demister to prevent the possibility of combustible gases contacting the water drain portion of the system. Expanding rubber plugs will be used to seal off the drain port and the vent port which lead from the demister to the water drain portion of the system.

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This will prevent the gases from escaping into the portion where the solenoid valves are located. Water collection is not expected to be significant for the short duration of the testing.

Administrative controls will also be used to provide an additional degree of safety.

- In the event of a total power failure, all personnel will be required to evacuate the trailer. Re-entry will only be permitted after surveying with both a portable OVA and explosimeter. Health and safety equipment will be stored outside the trailer so that it will be available in the event of a power outage.

- The offgas piping between the blower and the carbon unit will be surveyed with both a portable OVA and explosimeter to verify that no leaks are present after each system startup.

- A lock-out/tag-out procedure will be used when working on electrical systems (such as the blower) within the ISVS mobile unit.

The steps taken both in hardware design and administrative controls are intended to mitigate the potential of fire or explosion during the operation of the ISVS equipment at the Lord-Shope Landfill.